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Wormhole geometries in Eddington-Inspired Born-Infeld gravity

Harko T., Lobo F., Mak M., Sushkov S.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2015 World Scientific Publishing Company. Eddington-inspired Born-Infeld (EiBI) gravity is a recently proposed modified theory of gravity, based on the classic work of Eddington and Born-Infeld nonlinear electrodynamics. In this paper, we consider the possibility that wormhole geometries are sustained in EiBI gravity. We present the gravitational field equations for an anisotropic stress-energy tensor and consider the generic conditions, for the auxiliary metric, at the wormhole throat. In addition to this, we obtain an exact solution for an asymptotically flat wormhole.

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Keywords

Eddington-inspired Born-Infeld gravity, modified gravity, Wormholes